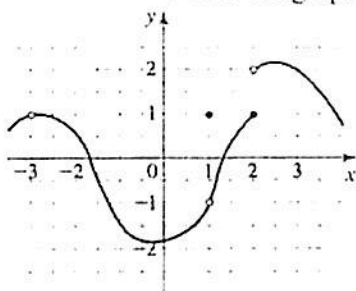


Name: _____

Date: _____

Do Now

1. State if the value of the limit, if it exists, from the graph of f . If it does not exist, explain why.



(a) $\lim_{x \rightarrow 3} f(x)$

(b) $\lim_{x \rightarrow 1} f(x)$

(c) $\lim_{x \rightarrow -3} f(x)$

(d) $\lim_{x \rightarrow 2} f(x)$

(e) $\lim_{x \rightarrow 2^+} f(x)$

(f) $\lim_{x \rightarrow 2^-} f(x)$

2. $\lim_{x \rightarrow -3} \frac{x^2 - 9}{2x^2 + 7x + 3}$

3. $\lim_{h \rightarrow 0} \frac{(2+h)^3 - 8}{h}$

4. $\lim_{x \rightarrow 1} \frac{x^8 - 1}{x^5 - x}$

Classwork

Evaluate the limit, if it exists.

5. $\lim_{x \rightarrow 9} \sqrt{x}$

6. $\lim_{x \rightarrow 4} \frac{x}{\sqrt{x}}$

$$7. \lim_{x \rightarrow 0} \frac{x}{\sqrt{x}}$$

$$17. \lim_{h \rightarrow 0} \frac{\sqrt{1+h} - 1}{h}$$

$$8. \lim_{x \rightarrow -1^+} \frac{x+1}{\sqrt{x+1}}$$

$$18. \lim_{x \rightarrow 7} \frac{\sqrt{x+2} - 3}{x-7}$$

$$9. \lim_{x \rightarrow 0} \frac{x-2}{\sqrt{x^2-4}}$$

$$19. \lim_{x \rightarrow -4} \frac{\frac{1}{x} + \frac{1}{4}}{4+x}$$

$$10. \lim_{x \rightarrow 0} \frac{x-4}{\sqrt{x}-2}$$

$$20. \lim_{x \rightarrow 0} \frac{\frac{1}{x+1} - 1}{x}$$

$$11. \lim_{x \rightarrow 1} \frac{x^2-1}{\sqrt{x}-1}$$

$$21. \lim_{x \rightarrow 0} \frac{(3+x)^{-1} - 3^{-1}}{x}$$

$$12. \lim_{x \rightarrow 1} \frac{x-1}{\sqrt{x^2+3}-2}$$

$$22. \lim_{x \rightarrow 0} \frac{(5+x)^{-1} - 5^{-1}}{x}$$

$$13. \lim_{x \rightarrow 1} \frac{1-\sqrt{x}}{1-x}$$

$$14. \lim_{x \rightarrow 1} \frac{1-\sqrt{x}}{1+x}$$

$$15. \lim_{x \rightarrow 4} \frac{2-\sqrt{x}}{4-x}$$

$$16. \lim_{x \rightarrow 2} \frac{4-x^2}{3-\sqrt{x^2+5}}$$